

Project Euler #9: Special Pythagorean triplet

This problem is a programming version of [Problem 9](#) from [projecteuler.net](#)

A Pythagorean triplet is a set of three natural numbers, $a < b < c$, for which,

$$a^2 + b^2 = c^2$$

For example, $3^2 + 4^2 = 9 + 16 = 25 = 5^2$

Given N , Check if there exists any Pythagorean triplet for which $a + b + c = N$

Find maximum possible value of abc among all such Pythagorean triplets, If there is no such Pythagorean triplet print -1 .

Input Format

The first line contains an integer T i.e. number of test cases.

The next T lines will contain an integer N .

Output Format

Print the value corresponding to each test case in separate lines.

Constraints

$$1 \leq T \leq 3000$$

$$1 \leq N \leq 3000$$

Sample Input

```
2
12
4
```

Sample Output

```
60
-1
```